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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/693,930

10/28/2003

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EXAMINER

HERNANDEZ, NELSON D

ART UNIT

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2622

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/693,930	Applicant(s) OMIYA ET AL.	
	Examiner Nelson D. Hernández	Art Unit 2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) 12, 14-25, 29 and 31-33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 26 and 34 is/are rejected.
- 7) ☒ Claim(s) 3-11, 13, 27, 28 and 30 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 28, 2008 has been entered.

Response to Amendment

2. The Examiner acknowledges the amended claims filed on January 31, 2008. **Claims 1-8, 10, 11, 13, 26 and 34** have been amended. **Claims 12, 14-25, 29, and 31-33** have been withdrawn as they belong to a Non-Elected Species.

Claim Objections

3. **Claim 26** is objected to because of the following informalities: in the last line of the claim it recites "the third lens group is rotated about a shaft fixed to the wall of the lens barrel". Is the limitation meant to recite "the focus lens is rotated about a shaft fixed to the wall of the lens barrel". For examining purposes the limitation will be read as "the focus lens is rotated about a shaft fixed to the wall of the lens barrel". Appropriate correction is required.

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1, 2, 26 and 34 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 7,317,487 B2 in view of Nomura et al., US 2003/0156832 A1.

Regarding claim 1, claim 1 recites:

A digital camera that creates an image signal through catching a subject light, the digital camera comprising: (*Same as limitations in claim 1 of U.S. Patent No. 7,317,487 B2*)

an image taking lens, which is variable in a focal length (*Same as limitations in claim 1 of U.S. Patent No. 7,317,487 B2*);

a lens barrel that incorporates therein the image taking lens (Same as limitations in claim 1 of U.S. Patent No. 7,317,487 B2), the lens barrel being free in extension and collapse and performing a focal length control (Same as limitations in claim 1 of U.S. Patent No. 7,317,487 B2); and

a solid state imaging device that receives the subject light formed by the image taking lens to create the image signal (Same as limitations in claim 1 of U.S. Patent No. 7,317,487 B2),

wherein the lens barrel has:

a third lens group (Similar to limitations in claim 1 of U.S. Patent No. 7,317,487 B2 since the patent discloses a "lens" instead of a lens group as disclosed in the present application) advancing and saving mechanism in which at the time of the collapse of the lens barrel (Same as limitations in claim 1 of U.S. Patent No. 7,317,487 B2), the third lens group (Similar to limitations in claim 1 of U.S. Patent No. 7,317,487 B2 since the patent discloses a "focus lens" instead of a lens group as disclosed in the present application. A lens group is a broader recitation of a focus lens.) is saved to a third lens group saving position out of the optical axis of the image taking lens, and at the time of the extension of the lens barrel, the third lens is advanced onto the optical axis of the image taking lens group (Similar to limitations in claim 1 of U.S. Patent No. 7,317,487 B2 since the patent discloses "a lens advancing and saving mechanism in which at the time of the collapse of the lens barrel, the focus lens is saved from an optical axis of the image taking lens and at the time of the extension of the lens barrel, the focus lens is advanced onto the optical axis of the image taking lens"), and

the third lens group (focus lens in claim 1 of the patent) is rotated about a shaft fixed to the wall of the lens barrel (Similar to limitations in claim 1 of U.S. Patent No. 7,317,487 B2 since the patent discloses "the lens advancing and saving mechanism saves and advances the focus lens from and onto the optical axis by rotating the focus lens about a fixed shaft, and the fixed shaft is fixed to an inner rear wall of the lens barrel.").

Claim 1 in the present application is different from claim 1 of U.S. Patent No. 7,317,487 B2 in that claim 1 in the present application further discloses: three lens groups of a first lens group, a second lens group, and a third lens group in the named order with respect to an optical axis direction; that said image taking lens has in front an aperture through which the image taking lens appears and having in rear an internal space defined by a wall; that the solid state imaging device is being supported by the wall; and that the lens barrel has a second lens group advancing and saving mechanism in which at the time of the collapse of the lens barrel, the second lens group is saved to a second lens group saving position out of an optical axis of the image taking lens, and at the time of the extension of the lens barrel, the second lens group is advanced onto the optical axis of the image taking lens.

However, Nomura et al. discloses a digital camera (Fig. 1) that creates an image signal through catching a subject light, the digital camera comprising: an image taking lens (See fig. 1), which is variable in a focal length, comprising three groups of a first lens (Fig. 1: L1), a second lens (Fig. 1: L2), and a third lens (Fig. 1: L3) in the named order with respect to an optical axis direction; a lens barrel (Fig. 1: 12) that incorporates

therein the image taking lens, having in front an aperture through which the image taking lens appears and having in rear an internal space defined by a wall (Fig. 1: 11), the lens barrel being free in extension and collapse and performing a focal length control; and a solid state imaging device (Fig. 1: C) that receives the subject light formed by the image taking lens to create the image signal, the solid state imaging device being supported by the wall (See fig. 1), wherein the lens barrel has: a second lens (zoom lens L2) advancing and saving mechanism in which at the time of the collapse of the lens barrel, the second lens is saved to a second lens saving position out of an optical axis of the image taking lens, and at the time of the extension of the lens barrel, the second lens is advanced onto the optical axis of the image taking lens (See fig. 2) (Page 2, ¶ 0051; page 3, ¶ 0052-0054); and a first lens (taking lens L1) advancing and saving mechanism in which at the time of the collapse of the lens barrel, the first lens is saved to a first lens saving position out of the optical axis, and at the time of the extension of the lens barrel, the first lens is advanced onto the optical (See fig. 2) (Page 2, ¶ 0051; page 3, ¶ 0052-0054). Furthermore, Nomura et al. further discloses that the fundamental principle of the invention is that an element of a plurality of optical elements is removed from a position on the optical axis of the plurality of optical elements to a different position outside of the optical axis, and the removed element and at least one element of the remaining optical elements of the plurality of optical elements are moved rearward along the optical axis, for the purpose of refracting the plurality of optical elements from a ready-to-photograph state which initially lie on a single optical axis and that the structure of the retractable lens system according to the

invention is not limited solely to that of the illustrated embodiments taught as long as the structure is designed on this fundamental principle. Nomura et al. also discloses that more than one of the lenses can be positioned outside the optical axis to retract the lens barrel even more (Page 6, ¶ 0073-0077).

Therefore, it would have been obvious to one of an ordinary skill in the art at the time the invention was made to apply the concepts taught in Nomura et al. to modify claim 1 of U.S. Patent No. 7,317,487 B2 to have three lens groups of a first lens group, a second lens group, and a third lens group in the named order with respect to an optical axis direction; to have said image taking lens with an in front an aperture through which the image taking lens appears and having in rear an internal space defined by a wall; the solid state imaging device being supported by the wall; and that the lens barrel has a second lens group advancing and saving mechanism in which at the time of the collapse of the lens barrel, the second lens group is saved to a second lens group saving position out of an optical axis of the image taking lens, and at the time of the extension of the lens barrel, the second lens group is advanced onto the optical axis of the image taking lens. The motivation to do so would have been to remove optical elements from the optical axis at the time the lens barrel is retracted to make the camera more compact (Page 1, ¶ 004-0022; page 6, ¶ 0071-0076).

Regarding claim 2, the combined teaching of claim 1 of U.S. Patent No. 7,317,487 B2 in view of Nomura et al. further teaches a focusing mechanism (Fig. 1: L3) wherein a focusing is performed by a movement of the third lens in the optical axis

direction (Page 2, ¶ 0051; page 3, ¶ 0052-0054). Grounds for rejecting claim 1 apply here.

Regarding claim 26, claim 26 recites:

A digital camera that creates an image signal through catching a subject light, the digital camera comprising: (*Same as limitations in claim 1 of U.S. Patent No. 7,317,487 B2*)

an image taking lens, which is variable in a focal length (*Same as limitations in claim 1 of U.S. Patent No. 7,317,487 B2*), wherein a focusing is performed by a movement of the focus lens (*Same as limitations in claim 1 of U.S. Patent No. 7,317,487 B2*);

a lens barrel that incorporates therein the image taking lens (*Same as limitations in claim 1 of U.S. Patent No. 7,317,487 B2*), the lens barrel being free in extension and collapse and performing a focal length control (*Same as limitations in claim 1 of U.S. Patent No. 7,317,487 B2*); and

a solid state imaging device that receives the subject light formed by the image taking lens to create the image signal (*Same as limitations in claim 1 of U.S. Patent No. 7,317,487 B2*); and

a focus lens advancing and saving mechanism in which at the time of the collapse of the lens barrel, the focus lens is saved to a focus lens saving position out of the optical axis of the image taking lens, and at the time of the extension of the lens barrel, the focus lens is advanced onto the optical axis of the image taking lens (*Similar to limitations in claim 1 of U.S. Patent No. 7,317,487 B2 since the patent discloses “a*

lens advancing and saving mechanism in which at the time of the collapse of the lens barrel, the focus lens is saved from an optical axis of the image taking lens and at the time of the extension of the lens barrel, the focus lens is advanced onto the optical axis of the image taking lens"); and

the third lens group (the Examiner is reading this as a "focus lens" as explained above in the Claims Objections made to claim 26) is rotated about a shaft fixed to the wall of the lens barrel (Similar to limitations in claim 1 of U.S. Patent No. 7,317,487 B2 since the patent discloses "the lens advancing and saving mechanism saves and advances the focus lens from and onto the optical axis by rotating the focus lens about a fixed shaft, and the fixed shaft is fixed to an inner rear wall of the lens barrel.").

Claim 26 in the present application is different from claim 1 of U.S. Patent No. 7,317,487 B2 in that claim 26 in the present application further discloses three lens groups of a front elements lens, a rear elements lens, and a focus lens in the named order with respect to an optical axis direction; that the taking lens has in front an aperture through which the image taking lens appears and having in rear an internal space defined by a wall, that the solid state imaging device is being supported by the wall, and that the lens barrel has a rear elements lens advancing and saving mechanism in which at the time of the collapse of the lens barrel, the rear elements lens is saved to a rear elements lens saving position out of an optical axis of the image taking lens, and at the time of the extension of the lens barrel, the rear elements lens is advanced onto the optical axis of the image taking lens.

However, Nomura et al. discloses a digital camera (Fig. 1) that creates an image signal through catching a subject light, the digital camera comprising: an image taking lens (See fig. 1), which is variable in a focal length, comprising three groups of a first lens (Fig. 1: L1), a second lens (Fig. 1: L2), and a third lens (Fig. 1: L3) in the named order with respect to an optical axis direction; a lens barrel (Fig. 1: 12) that incorporates therein the image taking lens, having in front an aperture through which the image taking lens appears and having in rear an internal space defined by a wall (Fig. 1: 11), the lens barrel being free in extension and collapse and performing a focal length control; and a solid state imaging device (Fig. 1: C) that receives the subject light formed by the image taking lens to create the image signal, the solid state imaging device being supported by the wall (See fig. 1), wherein the lens barrel has: a second lens (zoom lens L2) advancing and saving mechanism in which at the time of the collapse of the lens barrel, the second lens is saved to a second lens saving position out of an optical axis of the image taking lens, and at the time of the extension of the lens barrel, the second lens is advanced onto the optical axis of the image taking lens (See fig. 2) (Page 2, ¶ 0051; page 3, ¶ 0052-0054); and a first lens (taking lens L1) advancing and saving mechanism in which at the time of the collapse of the lens barrel, the first lens is saved to a first lens saving position out of the optical axis, and at the time of the extension of the lens barrel, the first lens is advanced onto the optical (See fig. 2) (Page 2, ¶ 0051; page 3, ¶ 0052-0054). Furthermore, Nomura et al. further discloses that the fundamental principle of the invention is that an element of a plurality of optical elements is removed from a position on the optical axis of the plurality of

optical elements to a different position outside of the optical axis, and the removed element and at least one element of the remaining optical elements of the plurality of optical elements are moved rearward along the optical axis, for the purpose of refracting the plurality of optical elements from a ready-to-photograph state which initially lie on a single optical axis and that the structure of the retractable lens system according to the invention is not limited solely to that of the illustrated embodiments taught as long as the structure is designed on this fundamental principle. Nomura et al. also discloses that more than one of the lenses can be positioned outside the optical axis to retract the lens barrel even more (Page 6, ¶ 0073-0077).

Therefore, it would have been obvious to one of an ordinary skill in the art at the time the invention was made to apply the concepts taught in Nomura et al. to modify claim 1 of U.S. Patent No. 7,317,487 B2 to have three lens groups of a front elements lens, a rear elements lens, and a focus lens in the named order with respect to an optical axis direction; the taking lens having in front an aperture through which the image taking lens appears and having in rear an internal space defined by a wall, the solid state imaging device being supported by the wall, and the lens barrel having a rear elements lens advancing and saving mechanism in which at the time of the collapse of the lens barrel, the rear elements lens is saved to a rear elements lens saving position out of an optical axis of the image taking lens, and at the time of the extension of the lens barrel, the rear elements lens is advanced onto the optical axis of the image taking lens. The motivation to do so would have been to remove optical elements from the

optical axis at the time the lens barrel is retracted to make the camera more compact (Page 1, ¶ 004-0022; page 6, ¶ 0071-0076).

Regarding claim 34, the combined teaching of Nomura et al. in view of Wakabayashi et al. as discussed and analyzed in claim 1 teaches that the first lens (Nomura et al., fig. 1: L1), the second lens (Nomura et al., fig. 1: L2), and the third lens (Nomura et al., fig. 1: L3) are positioned in a predetermined sequential order with respect to the solid state imaging device and wherein the first lens is farthest from the solid state imaging device (As shown in fig. 1, Nomura et al. teaches that the first lens (L1) is the farthest from the solid state imaging device). Grounds for rejecting claim 1 apply here.

Allowable Subject Matter

6. **Claims 3-11, 13, 27, 28 and 30** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 3, the main reason for indication of allowable subject matter is because the prior art fails to teach or reasonably suggest that the lens barrel has: a second lens group guide frame that moves in the optical axis direction in accordance with the extension, the collapse and the focal length control so as to determine a position related to the optical axis direction of the second lens group and a second lens

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group holding frame that holds the second lens group and is pivotally supported by the second lens group guide frame, the second lens group holding frame causing the second lens group to revolve on the optical axis of the image taking lens at the time of the extension, and the second lens group holding frame causing the second lens group to revolve on the second lens group saving position at the time of the collapse, and wherein the lens barrel has: a third lens group guide frame that moves in the optical axis direction in accordance with the extension, the collapse and the focusing so as to determine a position related to the optical axis direction of the third lens group; and a third lens group holding frame that holds the third lens group and is pivotally supported by the third lens group guide frame, the third lens group holding frame causing the third lens group to revolve on the optical axis of the image taking lens at the time of the extension, and the third lens group holding frame causing the third lens group to revolve onto the third lens group saving position at the time of the collapse, including all the limitations of claim 1.

Regarding claim 27, the main reason for indication of allowable subject matter is because the prior art fails to teach or reasonably suggest that the lens barrel has: a rear elements guide frame that moves in the optical axis direction in accordance with the extension, the collapse and the focal length control so as to determine a position related to the optical axis direction of the rear elements lens; and a rear elements holding frame that holds the rear elements lens and is pivotally supported by the rear elements guide frame, the rear elements holding frame causing the rear elements lens to revolve on the optical axis of the image taking lens at the time of the extension, and the rear elements

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holding frame causing the rear elements lens to revolve on the rear elements lens saving position at the time of the collapse, and wherein the lens barrel has: a focus lens guide frame that moves in the optical axis direction in accordance with the extension, the collapse and the focusing so as to determine a position related to the optical axis direction of the focus lens; and a focus lens holding frame that holds the focus lens and is pivotally supported by the focus lens guide frame, the focus lens holding frame causing the focus lens to revolve on the optical axis of the image taking lens at the time of the extension, and the focus lens holding frame causing the focus lens to revolve onto the focus lens saving position at the time of the collapse, including all the limitations of claim 26.

Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nelson D. Hernández whose telephone number is (571)272-7311. The examiner can normally be reached on 9:00 A.M. to 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on (571) 272-7372. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Nelson D. Hernández
Examiner
Art Unit 2622

NDHH
April 18, 2008

/Lin Ye/
Supervisory Patent Examiner, Art Unit 2622